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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/814,125 | 03/22/2001 | Yoshinori Iketaki | 2001_0327A | 2053 |

513 7590 10/24/2002

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EXAMINER

CHANG, AUDREY Y

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2872

DATE MAILED: 10/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,125

Applicant(s)

IKETAKI ET AL.

Examiner

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) 2,7-24 and 27-73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,25 and 26 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau: (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2872

DETAILED ACTION

Election/Restrictions

1. Applicant's election *without traverse* of invention group I and species II (claims 1, 3-6, 25-26) in Paper No. 6 is acknowledged.
2. Claims 2, 7-24, and 27-73 are *withdrawn* from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made *without traverse* in Paper No. 6.
3. Claims 1, 3-6 and 25-26 remain pending in this application.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 4-6 and 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "a phase difference of π ... being a center" recited in claim 4, is indefinite and confusing since it is not clear if this phase difference is the same or a different one from the phase difference recited in claim 3.

Art Unit: 2872

The phrase "through a means for a limitation of a beam area" recited in claim 4 is indefinite and confusing since it is not clear what is this means and what does it mean by "a limitation of a beam area". It is not clear if this means provides the limitation of the beam area or not.

Claim Objections

7. Claims 6 and 25-26 are objected to because of the following informalities: claim 6 recites the phrase "is performed a etching" should be read as "is performed *by an* etching" and the word "longer" recited in claim 25 should read "wider" since it is the beam width that is being compared. Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Iketaki et al (PN. 5,835,262) in view of the patent issued to Fairley et al (PN. 5,783,814).

Iketaki et al teaches a multi-wavelength optical *microscope* that is comprised of a *laser light source* (3) for generating a *pump laser light beam* of wavelength λ_1 and a *laser light source* (7) for generating an *erase laser light beam* of wavelength λ_2 to illuminate a *sample* (14), (please see Figure 1). Iketaki et al teaches that the pump light is capable of exciting a sample molecule from a *ground state* to a *first excitation state* and the erase light beam is capable of exciting the sample molecule from the *first excitation state* to a *second (higher) excitation state*, (please see Figure 6 and column 6). Iketaki et al teaches that a *half mirror* (11) is used as the *overlap means* for combining and making the irradiation

Art Unit: 2872

areas on the sample of the two beams overlap with each other. The absorption and deexcitation process will form light-emitting images. This arrangement will have *double resonance absorption* since the deexcitation between the second excitation state to the first excitation state and the deexcitation between the first excitation state and the ground state will give two absorption peaks.

Iketaki et al teaches that a telescope lens and a condense lens (12 and 13) are used to propagating the illuminating light beam to the sample. However it does not teach explicitly that a spatial filter having a condense lens, a collimate lens and a pinhole is used to transfer the light beam. But a spatial filter having the above-mentioned combination is well known in the art. As demonstrated by the teachings of a *microscope* by *Fairley* et al wherein a *spatial filter* having a *converging lens* (130, Figure 2B), a *pinhole* (131) and a *collimator lens* (132) is used in the illumination beam path to filter out unwanted, scattered light to confine the illumination beam in a desired optical path, (please see Figure 2B). It would then have been obvious to one skilled in the art to apply the teachings of Fairley et al to modify the microscope of Iketaki et al for the benefit of providing spatial filtering to the light beam so that unwanted light beam can be blocked out from reaching the sample to improve the observation through the microscope.

Allowable Subject Matter

10. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 4-6 and 25-26 are would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 2872

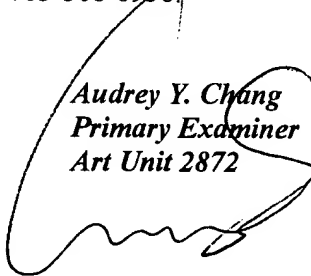
12. The following is a statement of reasons for the indication of allowable subject matter: of the prior art references considered, none has disclosed a double resonance absorption microscope having the properties as claimed with a spatial filter having the claimed structure and *a phase modulation element* that imparts the erase light beam with a *phase difference of π around an optical axis* of the erase light as the optical axis being a center.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang
Primary Examiner
Art Unit 2872



A. Chang, Ph.D.
October 18, 2002